

SPINDLE MOTOR AND DISK DRIVE UTILIZING THE SPINDLE MOTOR

Abstract of Disclosure

Low-profile spindle motor whose entire shaft length is utilized to configure, along an encompassing sleeve, a radial dynamic-pressure bearing section. One end of the shaft is unitary with the rotor, and a cover member closes the other end. Between the sleeve upper-end face and the rotor undersurface a thrust bearing section is configured. Micro-gaps are formed continuing between the sleeve upper-end face and the rotor undersurface; the sleeve inner-circumferential surface and the shaft outer-circumferential surface; and the cover member inner face and the shaft end face, where an axial support section is established. Oil continuously fills the micro-gaps without interruption, configuring a fully filled hydrodynamic bearing structure. Hydrodynamic pressure-generating grooves in the radial bearing section are configured so that no axial flow is induced in the oil, and in the thrust bearing so that lift pressure, balanced by hydrostatic pressure in the axial support section, is imparted in the oil.

Figures

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